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Evaluation of Agronomic Characteristics and Genetic similarity in Native Minor Cereal Germplasms

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Agronomic characteristics and genetic relationships of crop germplasms are essential to study the inheritance and to develop new cultivar. This study was conducted to evaluate the agronomic characteristics, analysis of genetic similarity and build the data base of collected two native minor cereals, Setaria italica BEAUVOIS and Panicum miliaceum L. germplasms. 136 accessions of Setaria italica BEAUVOIS collected from Korea had mainly round and pyramid shaped spikes and green leaf color. Growing period of them varied from 120 days to 150 days. In 137 accessions of Panicum miliaceum L., there were mainly oblate spike type and green leaf color. Growing period of them were 90 days to 120 days showing 30 days variation. In the analysis of genetic similarity using DNA markers in Setaria italica BEAUVOIS and Panicum miliaceum L. germplasms, banding patterns obtained by RAPD analysis with fifteen oligonucleotide primers revealed 52 polymorphisms from 108 amplified segments in Setaria italica BEAUVOIS. Thirty nine segments out of one hundred twenty four showed polymorphisms using twelve RAPD primers in Panicum miliaceum L. germplasms.

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